



# INDIUM CORPORATION OF AMERICA®\EUROPE®\ASIA-PACIFIC® INDIUM CORPORATION (SUZHOU)® SAFETY DATA SHEET

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Identifier:** WS446 (s) - HF

**MSDS Number:** MSDS-5441

**Revised Date:** 28 DECEMBER 2010

**Product Use:** Industrial Use - Flux for soldering applications

### MANUFACTURER:

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## 2. HAZARDS IDENTIFICATION

### PRIMARY ROUTES OF ENTRY:

Eye    Inhalation    Skin    Ingestion    NTP

### Carcinogen listed in

IARC    OSHA    Not Listed

GHS:



Signal Word: Warning

Hazard statements(s)

H317 May cause an allergic skin reaction  
H319 Causes serious eye irritation

Precautionary statement(s)

P233 Keep container tightly closed  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray  
P270 Do not eat, drink or smoke when using this product  
P280 Wear protective gloves/protective clothing/eye protection/face protection  
P362 Take off contaminated clothing and wash before reuse  
P302 +P352 IF ON SKIN: Wash with plenty of soap and water  
P304 + 341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing  
P305 + 351 IF IN EYES: Rinse continuously with water for several minutes

**POTENTIAL HEALTH EFFECTS:**

**Eye Contact:** Irritating to the eyes. May cause serious eye irritation.

**Ingestion:** May cause irritation.

**Inhalation:** Heated vapor concentrations may be irritating to respiratory tract.

**Skin Contact:** May cause skin irritation or dermatitis.

**Chronic:** Not established. Substance amine target organ: liver/kidneys

**NOTE:** The Indium Corporation does not recommend, manufacture, market or endorse any of its product's for human consumption.

**WARNING:** This product may contain a chemicals known to the State of California to cause cancer and/or birth defects (or other reproductive harm). (trace levels of listed chemicals)

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

Components	% wt	CAS Registry #	PEL mg/m <sup>3</sup>	TLV-TWA mg/m <sup>3</sup>	TLV-STEL mg/m <sup>3</sup>
POLYGLYCOL ETHER	33-36	9038-95-3	N.E.	N.E.	N.E.
PROPRIETARY ALCOHOLS	60-65	-	N.E.	N.E.	N.E.
PROPRIETARY AMINE	2-4	- (Singapore)	- 5	5 -	- -

Symbol: XI

Risk Phrases: R36/37/38

N.E. = Not established

EU = European Union Occupational Exposure Limits

#### 4. FIRST AID MEASURES

- Eye Contact:** Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Seek medical attention if irritation persists.
- Ingestion:** If patient is conscious, ONLY induce vomiting as directed by trained personnel. NEVER give anything by mouth to an unconscious person. Seek medical attention immediately.
- Inhalation:** Remove to fresh air. If not breathing, give artificial respiration or oxygen by trained personnel. Seek immediate medical attention.
- Skin Contact:** Remove contaminated clothing. Wash affected area with soap and water. Wash clothing before reuse. If irritation persists, obtain medical attention.

#### 5. FIRE FIGHTING MEASURES

- Flash Point:** >100 C                      **Method:**
- Auto-ignition Temperature:** Not established.
- Flammable Limits:** Limits not established, not flammable.
- Extinguishing Media:** Use extinguishers appropriate for the surrounding fire conditions.
- Special Fire Fighting Procedures:** Firefighters must wear NIOSH approved self-contained breathing apparatus and full protective clothing.

#### 6. ACCIDENTAL RELEASE MEASURES

- Spill or Leak Procedures:** Wear a respirator and appropriate Personal Protective (See Exposure Controls/Personal Protective Section). Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Dispose of following all Federal, State and Local regulations. In the EU refer to the Special Waste Regulations.

#### 7. HANDLING AND STORAGE

- Handling Precautions:** Keep containers tightly closed when not in use. Use care to avoid spills. Avoid breathing vapors from heated material. Avoid contact with eyes, skin and clothing. Use with adequate ventilation.
- Storage Precautions:** Store product in tightly capped original containers in a cool, dry area. Keep away from heat and flame. Store away from incompatible materials. Empty containers may be hazardous as they contain product residue.

#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- Engineering Controls:** Good general exhaust ventilation should be sufficient to control airborne levels.
- Personal protection:**
- Eyes:** Chemical safety glasses/goggles. Face shield for splash hazard.
- Respirator:** An authority approved or compliant marked air-purifying respirator with a fume/organic chemical

cartridge is recommended under certain circumstances where airborne concentrations are expected to be elevated.

<b>Skin:</b>	Compatible chemical resistant gloves. Protective outer garment, apron and sleeves as appropriate.
<b>Other:</b>	Eyewash fountain in work area. Avoid the use of contact lenses in high fume/splash areas.
<b>Work/Hygienic Practices:</b>	Maintain good housekeeping. Clean up spills immediately. Avoid eating, smoking or drinking in the work area. Wash hands thoroughly with soap and water immediately upon leaving the work area.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Flux – yellow, creamy	<b>Boiling Point:</b>	Not applicable.
<b>Odor:</b>	Mild characteristic odor.	<b>Melting Point:</b>	Not applicable
<b>Specific Gravity:</b>	1 g/cc	<b>pH:</b>	4-8
<b>Vapor Pressure:</b>	Not applicable.		
<b>Vapor Density:</b>	(air=1) Not applicable.		

## 10. STABILITY AND REACTIVITY

<b>General:</b>	Stable.
<b>Conditions to Avoid:</b>	Freezing temperatures. High temperatures.
<b>Incompatible Materials:</b>	Not established
<b>Hazardous Decomposition / Combustion:</b>	Harmful organic fumes and toxic oxide fumes may form at elevated temperatures.
<b>Hazardous Polymerization:</b>	Will not occur.

## 11. TOXICOLOGICAL INFORMATION

<b>Carcinogenicity:</b>	<b>NTP:</b> No		
	<b>OSHA:</b> No		
	<b>IARC:</b> No		
<b>LD50:</b>	Not established.	<b>LC50:</b>	Not established.

Product is not considered to be a carcinogen.

## 12. ECOLOGICAL INFORMATION

Product not tested. No information available.

## 13. DISPOSAL CONSIDERATION

**Waste Disposal Method:** Dispose of in accordance with all Federal, State and Local environmental regulations. In Europe follow the Special Waste Regulations.

**14. TRANSPORT INFORMATION**

Transport in accordance with applicable regulations and requirements. Not regulated under US DOT (United States Department of Transportation). Non hazardous for all shipping modes.

**15. REGULATORY INFORMATION**

The information in this Material Safety Data Sheet meets the requirements of the United States Occupational Safety and Health Act and regulations promulgated hereunder (29 CFR 1910.1200 ET. SEQ.).

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulation (CPR).

WHMIS: Not classified because of insufficient information.

This product has been classified in accordance with the guidelines set by the Dept of Industrial Health of the Republic of Singapore.

SARA 313 Listing - 40 CFR 372.65 - 10% SARA listed solvent. Trace levels: ethylene oxide, 1,4 dioxane and acetaldehyde

WARNING: Applicable in the State of California Safe Drinking Water Standard: This product may contain chemicals known to the State of California to cause cancer and/or birth defects (or other reproductive harm). (trace levels of ethylene oxide, 1,4 dioxane, acetaldehyde)

EC Classification, Packaging and Labeling Requirements:

Symbol and Hazard Classification of Product

XI

**Risk Phrases:**

R36/37/38 Irritating to eyes, respiratory system and skin

**Safety Phrases:**

S20/21 When using do not eat, drink or smoke

S23 Do not breathe fumes/gas/vapor/spray

S24/25 Avoid contact with skin and eyes

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection

S28 After contact with skin wash immediately with plenty of soap and water

S62 If swallowed, do not induce vomiting seek medical advice immediately and show container or label

S7 Keep container tightly closed

**16. OTHER INFORMATION**

**HMIS Hazard Rating:**

<b>Health:</b>	1
<b>Fire:</b>	1
<b>Reactivity:</b>	0

**Revised Date:** 28 DECEMBER 2010

**Prepared by:** Nancy Swarts, Indium Corporation of America

**Approved by:** Nancy Swarts, Indium Corporation of America

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